CLAIMS

1. An *in vitro* method of screening human subjects to assess their risk of developing cervical carcinoma which comprises screening the subject for expression of mRNA transcripts from the L1 gene and the E6 gene of human papillomavirus, wherein subjects positive for expression of L1 and/or E6 mRNA are scored as being at risk of developing cervical carcinoma.

2. An *in vitro* method of screening human subjects to assess their risk of developing cervical carcinoma which comprises screening the subject for expression of mRNA transcripts of the L1 gene of human papillomavirus (HPV) and mRNA transcripts of the E6 gene of HPV, and sorting the subject into one of four categories of risk for development of cervical carcinoma based on expression of L1 and/or E6 mRNA according to the following classification:

Risk category 1: subjects negative for expression of L1 mRNA but positive for expression of E6 mRNA from at least one of HPV types 16, 18, 31, 33, 35, 39, 45, 52, 56, 58, 59, 66 and 68;

Risk category 2: subjects positive for expression of L1 mRNA and positive for expression of E6 mRNA from at least one of HPV types 16, 18, 31, 33, 35, 39, 45, 52, 56, 58, 59, 66 and 68;

Risk category 3: subjects positive for expression of L1 mRNA but negative for expression of E6 mRNA;

Risk category 4: subjects negative for expression of L1 mRNA and negative for expression of E6 mRNA.

3. A method according to claim 1 which further comprises screening for expression of $p16^{ink4a}$, wherein subjects positive for expression of L1 and/or E6 mRNA and positive for expression of $p16^{ink4a}$ are scored as being at risk of developing cervical carcinoma.

4. An *in vitro* method of screening human subjects for the presence of integrated HPV or a modified episomal HPV genome, which method comprises screening the subject for expression of mRNA transcripts from the L1 gene and the E6 gene of human papillomavirus, wherein subjects negative for expression of L1 mRNA but positive for expression of E6 mRNA are scored as carrying integrated HPV or a modified episomal HPV genome.

5. An *in vitro* method of screening human subjects for the presence of integrated HPV or a modified episomal HPV genome, which method comprises screening the subject for expression of mRNA transcripts from the E6 gene of human papillomavirus, wherein subjects positive for expression of E6 mRNA are scored as carrying integrated HPV or a modified episomal HPV genome.

6. An *in vitro* method of screening human subjects to assess their risk of developing cervical carcinoma, which method comprises screening the subject for expression of mRNA transcripts of the E6 gene of HPV and sorting the subject into one of two categories of risk for development of cervical carcinoma based on expression of E6 mRNA, wherein individuals positive for expression of E6 mRNA are scored as carrying integrated HPV or a modified episomal HPV genome and are therefore classified as high risk for development of cervical carcinoma, whereas individuals negative for expression of E6 mRNA

are scored as not carrying integrated HPV or a modified episomal HPV genome and are therefore classified as no detectable risk for development of cervical carcinoma.

7. An *in vitro* method of identifying human subjects having abnormal cell changes in the cervix, which method comprises screening the subject for expression of mRNA transcripts of the E6 gene of HPV, wherein individuals positive for expression of E6 mRNA are identified as having abnormal cell changes in the cervix.

8. A method according to any one of claims 5 to 7 wherein the human subjects are subjects previously identified as infected with human papillomavirus DNA in cells of the cervix.

9. A method according to any one of claims 5 to 7 wherein the human subjects are subjects having a previous diagnosis ASCUS, CIN 1 lesions or condyloma.

10. A method according to any one of claims 4 to 9 wherein individuals positive for expression of E6 mRNA from at least one of HPV types 16, 18, 31, 33 or 45 are scored as carrying integrated HPV.

11. A method according to any one of claims 1 to 4 which comprises screening for L1 mRNA expression using a technique which is able to detect L1 mRNA from substantially all known HPV types.

12. A method according to any one of claims 1 to 11 which comprises screening for E6 mRNA expression using a technique which is able to detect E6 mRNA from at least one cancer-associated HPV type,

13. A method according to claim 12 which comprises screening for E6 mRNA expression using a technique which is able to detect E6 mRNA from HPV types 16, 18, 31, 33, and preferably 45.

14. A method according to any one of claims 1 to 13 wherein screening for L1 and/or E6 mRNA expression is carried using an amplification reaction to amplify of a region of the mRNA, together with real-time detection of the products of the amplification reaction.

15. A method according to claim 14 wherein screening for L1 and/or E6 mRNA expression is carried using real-time NASBA.

16. A kit for use in the detection of mRNA transcripts of the L1 and E6 genes of HPV, the kit comprising at least one primer-pair suitable for use in amplification of a region of L1 transcripts from at least HPV types 16, 18, 31, 33, and preferably 45 and one or more primer-pairs which enable amplification of a region of E6 transcripts from HPV types 16, 18, 31, 33, and preferably 45.